(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
22 April 2004 (22.04.2004)

PCT

(10) International Publication Number
WO 2004/033069 A3

(51) International Patent Classification[7]: B01D 39/16, 39/20, B01J 20/28, 20/32, 20/20, B01D 53/04, B01J 35/00, C02F 3/28

(21) International Application Number:
PCT/FI2003/000748

(22) International Filing Date: 9 October 2003 (09.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
02/12605 10 October 2002 (10.10.2002) FR

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(81) Designated States *(national)*: AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE (utility model), EE, EG, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *as to the identity of the inventor (Rule 4.17(i)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

Published:

— *with international search report*

— *with amended claims*

(88) Date of publication of the international search report:
5 August 2004

Date of publication of the amended claims:
16 September 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMPROVED FILTERING MEDIUM AND USE OF THE SAID FILTERING MEDIUM FOR POLLUTION REMOVAL FROM LAGOONS

(57) Abstract: Filtering medium based on activated carbon which is characterized in that it comprises three superposed layers, respectively an inner layer and two outer layers, the inner layer consisting of 80 to 95% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres, the first outer layer comprisingfrom 45 to 95% by dry weight of organic and/or inorganic chemical fibres, the balance for 100% consisting of activated carbon and/or of a material having a density of less than 0.9, the second outer layer comprising from 5 to 25% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres, and in that the weight of the inner layer is between 40 and 200 g/m^2 and the weight of the outer layers is between 10 and 100 g/m^2.

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AMENDED CLAIMS

[Received by the International Bureau on 16 July 2004 (16.07.2004): original claims 1-18 replaced by amended claims 1-11 (3 pages)]

1. Filtering medium based on activated carbon, characterized in that it comprises three superposed layers, respectively an inner layer and two top and bottom outer layers,
   - the inner layer consisting of 80 to 95% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres,
   - the bottom layer comprising from 45 to 100% by dry weight of organic chemical fibres having OH functional groups and optionally inorganic fibres, the possible balance for 100% consisting, where appropriate, of activated carbon and/or of a material having a density below 0.9, all or some of the OH functional groups having reacted with a grafting reagent RX, where R is a suitable hydrophobic group in order to be able to be in the liquid state at a temperature of at least 200°C at atmospheric pressure and in order to be able to react on the OH functional groups at least under certain reaction conditions, while producing covalent grafting of hydrophobic groups R onto the OH functional groups with formation of a volatile compound HX under the reaction conditions,
   - the top layer comprising from 5 to 25% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres.

2. Filtering medium according to Claim 1, characterized in that RX is a fatty acid halide, in particular a saturated or unsaturated aliphatic acid halide comprising at least 16 carbon atoms, advantageously behenic acid.

3. Medium according to Claim 1, characterized in that the bottom layer contains at least 30% by weight of organic fibres having OH functional groups.

4. Medium according to Claim 1, characterized in that the activated carbon present in the top layer and optionally in the bottom layer is in the form of fibres.

5. Filtering medium according to Claim 1, characterized in that it contains activated carbon in the form of fibres intended to adsorb CH_4 and H_2S, whose characteristics are the following:
   - yarn count of the filament 1 to 1.5 dtex,
   - specific surface area: 1 400 m^2/g,
   - amount of micro porosity: 95%.

6. Filtering medium according to Claim 1, characterized in that the top layer is coated with a layer based on a photocatalytic agent.

7. Filtering medium according to Claim 6, characterized in that the layer based on a photocatalytic agent exists in the form of a mixture comprising between 10 and 70 parts, advantageously 50 parts of an aqueous colloidal dispersion of silicon dioxide (SiO_2), the balance for 100 parts consisting of TiO_2 anatase.

8. Filtering medium according to Claim 7, characterized in that the particles of SiO_2 represent from 1 to 50% by weight of the colloidal aqueous dispersion and have a diameter of between 10 and 40 nm.

9. Filtering medium according to Claim 7, characterized in that the layer based on a photocatalytic agent comprises between 5 and 40 g/m^2, advantageously 20 g/m^2 of photocatalytic agent.

10. Filtering medium based on activated carbon which is characterized in that it comprises three superposed layers, respectively an inner layer and two outer layers, the inner layer consisting of a 80 to 95% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres, the first outer layer comprising from

45 to 95% by dry weight of organic and/or inorganic chemical, the balance for 100% consisting of activated carbon and/or of a material having a density of less than 0.9, the second outer layer comprising from 5 to 25% by dry weight of activated carbon, the balance for 100% consisting of organic and/or inorganic chemical fibres, and in that the weight of the inner layer is between 40 and 200 g/m^2 and the weight of the outer layers is between 10 and 100 g/m^2.

11. Use, as floating support, of a filtering medium according to any of the preceding claims 1 - 10.

INTERNATIONAL SEARCH REPORT

Inter ial Application No
PCT/FI 03/00078

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K31/50 A61K38/48 A61K38/49 A61P9/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61K A61P

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
MEDLINE, BIOSIS, CHEM ABS Data, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GERSH B J: "Current issues in reperfusion therapy." THE AMERICAN JOURNAL OF CARDIOLOGY. UNITED STATES 22 OCT 1998, vol. 82, no. 8B, 22 October 1998 (1998-10-22), pages 3P-11P, XP002242596 ISSN: 0002-9149 the whole document --- -/--	1-6

[X] Further documents are listed in the continuation of box C. [ ] Patent family members are listed in annex.

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 May 2003	13. 06. 2003

Name and mailing address of the ISA	Authorized officer
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Form PCT/ISA/210 (second sheet) (July 1992)